

NOV 26 2008

Doc Code: AP.PRE.REQ

PTO/SB/33 (10-08)

Approved for use through 11/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

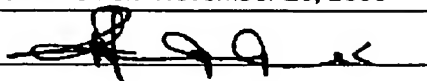
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on facsimile transmission on November 26, 2008

Signature

Typed or printed name Dr. Arjuna I. Rajasingham

Application Number

10/692,755

Filed

10/27/2003

First Named Inventor

Dr. Rusi P. Taleyarkhan

Art Unit

3663

Examiner

Dr. R. Palabrica

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☒

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)☐

attorney or agent of record.

Registration number _____

☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____


Dr. Arjuna I. Rajasingham

Signature

MMILLENNIUM ENERGY CORPORATION

Typed or printed name

301 437 7349

Telephone number

November 25, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐*Total of NIL forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Pre-Appeal Brief Request for Review

Application Number: 10/692,755

Applicant : Dr. Rusi P. Taleyarkhan

The applicant respectfully submits that the rejections of the above application are not based on fact and accordingly request review by the conference.

SUMMARY

The applicant respectfully submits that the examiner's section 112 rejections are not consistent with fact as:

- The alleged omissions from disclosure presented as reasons for rejection are established in the background Art and available to those of ordinary skill in the Art.
- Rejection of multiple replications omit to justify basis for such rejection.
- Rejection omits to recognize wording in Specification.
- Insufficient antecedent has been corrected in an amendment.

The applicant respectfully submits that the examiner's sections 102/103 rejections are not consistent with fact as:

- Rejections omit to recognize traverse of the same technologies in prior Office Action response.
- Further evidence is presented on the relevant Background Art for clarifications in the submission of September 25, 2008, that underscores the novelty and unobvious characteristics of the invention relative to these technologies in the background Art.

Applicant agreed with the examiner on duplicate claims for 34 and 44, and proposed amendments to correct this deficiency.

Affidavits by three separate replications were presented in the submission of September 25, 2008, a further validation - not acknowledged in the advisory action.

1. 112 Rejections

1. In his rejection the examiner omits to show why conditions for a D-T reaction are not subsumed in the conditions for a D-D reaction as submitted by the applicant. Conversely, the applicant has submitted from the background Art, that conditions for D-T reactions are subsumed by conditions for D-D reactions and establishment of conditions for D-D suffice for D-T reactions. Ref: OAR 9/25/2008: page: 3 Section 1.
2. In his rejection the examiner omits to state the reasons why these later replications do not further support probity and enablement. The Probity and enablement was already established in the IDS filed 27 October 2007. Please see OAR 9/25/2008 page 3- 5: section 2.
3. 35 USC 112 Rejection Claim 34, 42 (item 5) Rejection omits recognition of the background Art in conjunction with the Disclosure. Exposition of the related background art was submitted in OAR of 9/25/2008. Please see:
 - a. The tensioned state in OAR of 9/25/2008 page 5: Section 3 and in the published specification in particular para: 125, as well as in paras: 126, 134, 135, 144, and 205;
 - b. For "imploding said bubbles substantially filled with vapor" OAR of 9/25/2008 page 5-6: Section 4 and published Specification in particular para: 72, as well as in paras: 56, 63, 65, 67 and 122.;
 - c. For "synchronizing neutron impact" OAR of 9/25/2008 page 6: Section 5 and published Specification Fig 3, and paras: 80, 92, 93, 126, 128 and 131.
4. 35 USC 112 Rejection Claims 34-46 (item 6/7/8): Rejection omits recognition of the specification stating optional degassing, as the working liquid may already be substantially free of gas. Please refer to published Specification paras: 68, 119, 137, and 156.
5. 35 USC 112 Rejection Claims 44 (Item 8) A proposed amendment to correct the insufficient antecedent has been submitted. Please refer to OAR 9/25/2008 Page 7: Section 7 and in the related claims: page 17: Claim 34: Line 5.
6. 35 USC 112 Rejection Claims 46 (Item 8) Rejection omits recognition of the background Art. Please see published Specification: Paras: 66, 236-241. This is further clarified in OAR 9/25/2008: page 7: Section 8.

APPLICANT



ASSIGNEE



Pre-Appeal Brief Request for Review: Application Number: 10/692,755: Applicant : Dr. Rusi P. Taleyarkhan

Page 1 of 5

2. 102/103 Rejections

The prior office action response of 12/27/2006 addressed and traversed the distinct differences between i) Putterman and the present invention, and ii) Flynn and the present invention. Both those items of the background Art use single bubble technologies with distinctly different characterization. applicant submits that:

- i) Putterman and Margulis use the same technological approach. Please see Table 1 herein for a comparison. Moreover this technology contrast with the present invention. Please see OAR of 12/27/2006 pages 24, 39, 40, 41, 42 and further clarified in the OAR of 9/25/2008 Section 9 pages 7-9.
- ii) Flynn and Lipson use the same technological approach. Please see Table 2 herein for a comparison. Moreover this technology contrast with the present invention. Please see OAR of 12/27/2006 pages 18, 22, 23, 24, 38, 39, 41, 42 and further clarified in the OAR of 9/25/2008 Section 10 pages 10-11.

The applicant submits that traverse of Putterman and Flynn is equivalent to the traverse of Margulis and Lipson. Moreover, the OAR of 9/25/2008 provides further evidence of the contrast between the present invention and each of these two technologies. A direct comparison of the radically distinct differences and teachings of the present Application versus that of the prior art cited by Examiner is presented in Table 3.

Therefore:

- I. 35USC 102 Rejection Claims 34-40, 42, 44, 45 Margulis has been traversed as this objection is identical to the objection raised by the examiner in the prior OA of 9/27/2005 in which the examiner cites the Art of Putterman. In the Putterman Art as in Margulis, deliberate D and /or T gas is added to the test fluid being subjected to accoustic vibrations. For driving the bubbles to produce fusion. This was traversed with the submission of 12/27/2006 specifically 24, 39, 40, 41, 42. Moreover further clarifications have been provided to contrast this technology with the present invention.
- II. 35USC 102 Rejection Claims 34-40, 42, 44, 45 with regard to Lipson has been traversed as the objection is identical to the objection raised by the examiner in the prior OA of 9/27/2005 in which the examiner cites the Art of Flynn. Moreover further clarifications have been provided to contrast this technology with the present invention. In the Art of Lipson as for Flynn, accoustic horns are dipped into liquids of the test cell containing D-T gas filled liquids and are therefore distinct from the present invention. This was traversed with the submission of 12/27/2006. specifically pages 18, 22, 23, 24, 38, 39, 41, 42.
- III. 35USC 103 Rejection Claim 41: This rejection is improper first as from I, II above. Further, as the combination of these is not taught in the Art and furthermore both Margulis and Lipson are enabled by intentionally saturated gases in contrast to the present invention. Please see OAR 9/25/2008 page 11: section 11.
- IV. 35USC 103 Rejection Claim 43, 46: This rejection is improper for in addition to the reasoned above, Didenko is preceded by the priority date of the invention. Please see OAR 9/25/2008 page 11-12: section 12.

3. Duplicate Claims

The applicant has proposed a correction for this deficiency in claim 34 in OAR 9/25/2008 pp17: Line 5-6.

4. Affidavits

In addition to the technical papers submitted to the Office as support for replications of the invention in IDS of 6/8/2007, the applicant submitted affidavits from the authors of those papers as further support in the OAR of 9/25/2008. These are not acknowledged in the Advisory Action of 10/17/2008 sections 8/9/10, although they provide additional probity and enablement for the invention.

APPLICANT



ASSIGNEE



Pre-Appeal Brief Request for Review: Application Number: 10/692,755: Applicant : Dr. Rusi P. Taleyarkhan

Page 2 of 5

TABLE 1: Commonality and Comparison of characteristics of cited prior art teachings of Putterman et al. and Margulis

| Parameter | Puterman et al. | Margulis |
|--|---|---|
| Material to be fused | D and/or T "gas" bubble and inert gas deliberately introduced in center of flask. | D and/or T gas bubbles along with inert gas deliberately injected into liquid of reaction chamber. |
| Number of bubbles | 1 | 1+ (unspecified) |
| Non-condensable gas content of bubble | ~100% (bubbles substantially filled with non-condensable gas) | ~100% (bubbles substantially filled with non-condensable gas) |
| Liquid Type in terms of accommodation coefficient. | Low (~0.1) accommodation coefficient type - water | Low (~0.1) accommodation coefficient type - water |
| Neutron or alpha based nucleation of bubbles? | Impossible. Fusion neutrons, if generated occur when liquid is in state of compression and as such it is impossible to use the neutrons from D-D or D-T fusion to nucleate bubbles. | Impossible. Fusion neutrons, if generated occur when the liquid is in state of compression and as such it is impossible to use the neutrons from D-D or D-T fusion to nucleate bubbles. |
| Time-span of gas-filled bubbles | Indefinite; bubble in center of flask is deliberately left till it gets depleted of D and/or T contents. | Indefinite; bubbles in reaction chamber are deliberately left there till they are depleted of D and/or T contents. |
| Mode of acoustic energy delivery | Piezoelectric element on outside of reaction chamber. | Piezoelectric element on outside of reaction chamber. |
| Time-synchronization of acoustic waves with neutron or alpha based nucleation of tensioned liquid? | No | No |

APPLICANT



ASSIGNEE



Pre-Appeal Brief Request for Review: Application Number: 10/692,755; Applicant: Dr. Rusi P. Talevarkhan Page 3 of 5

Table 2: Commonality and Comparison of characteristics of cited prior art teachings of H. Flynn and A. Lipson

| Parameter | Flynn | Lipson |
|--|---|---|
| Material to be fused | D and/or T gas deliberately injected to saturation into working fluid | D and/or T gas and atoms of heavy water loaded into the heavy metal (Pd) of the vibrating horn tip. |
| Mode of acoustic energy delivery | Multiple acoustic horns with metal tips dipped into D/T gas filled liquid. | Single acoustic horn metal tip dipped into D/T gas filled liquid. |
| Number of bubbles | Random in number dissolved in liquid. | Random in number dissolved in liquid. |
| Time-synchronization of acoustic waves with neutron or alpha based nucleation of tensioned liquid? | No | No |
| Non-condensable gas content of bubbles | ~100% (No effort or teaching to degas the liquid) | ~100% (No effort or teaching to degas the liquid) |
| Liquid Type in terms of accommodation coefficient. | Low (~0.1) accommodation coefficient type - water or liquid metals | Low (~0.1) accommodation coefficient type - heavy water |
| Neutron or alpha based nucleation of bubbles? | Impossible. Fusion neutrons emanate when the liquid is in state of compression and as such it is impossible to use the neutrons from D-D or D-T fusion to nucleate bubbles. | Impossible. Fusion neutrons, if generated occur when the liquid is in state of compression and as such it is impossible to use the neutrons from D-D or D-T fusion to nucleate bubbles. |
| Time-span of gas-filled bubbles | Indefinite; bubbles in reaction chamber are deliberately left there till the D and/or T atoms are depleted. | Indefinite; bubbles in reaction chamber are deliberately left there till the D and/or T atoms are depleted. |

APPLICANT



ASSIGNEE



Pre-Appeal Brief Request for Review: Application Number: 10/692,755; Applicant: Dr. Rud P. Talwar

Page 4 of 5

| Table 3: Examiner Overlooked Key Differences between 10,692,755 and cited prior art teachings of Putterman, Margulis, H. Flynn and A. Lipson | | |
|--|---|--|
| Parameter | 10/692,755 | Prior Art Cited (Putterman, Margulis, Flynn, Lipson) |
| Operability of invention demonstrated? | Yes. Evidence presented of operability in major scientific journals per IDS filings. | No evidence of operability of claims. |
| Independently replicated per teachings of application by practitioners with ordinary skill? | Yes. Three signed affidavits submitted to this effect per 9.25.08 OAR. Preceded by corresponding technical papers submitted in an IDS. | No. |
| Material to be fused | D and/or T "atoms" of "vapor" molecules of working liquid itself. No deliberate injection or saturation with externally added D and/or T gas. | D and/or T "gas" and atoms of heavy water. |
| Mode of acoustic energy delivery | Co-ordinated, synchronized acoustically induced tension metastability together with incident MeV scale nuclear particles. | Acoustic horn metal tip(s) dipped into D/T gas filled liquid or acoustic energy imparted to gas-filled bubble(s); NO teaching of use of synchronized external or internal nuclear particles. |
| Number of bubbles | Cluster of several hundred bubbles formed on-demand by known flux of incident neutrons or other stated nuclear particles per Specification. | Either single (Putterman) or Randomly inserted to saturate liquid by dissolved D/T gas in liquid. |
| Time-synchronization of acoustic waves with neutron or alpha based nucleation of tensioned liquid? | Yes. | No |
| Non-condensable gas content of bubbles | Substantially degassed liquid per Specification. | ~100% (No effort or teaching to degas the liquid) |
| Liquid Type in terms of accommodation coefficient. | High (~ 1.0) accommodation coefficient type -- water or liquid metals. | Low (~0.1) accommodation coefficient type --such as water or liquid metals. |
| Neutron or alpha based nucleation of bubbles? | Yes. | Impossible. Fusion neutrons, if generated occur when the liquid is in state of compression and as such it is impossible to use the neutrons from D-D or D-T fusion to nucleate bubbles. |
| Time-span of bubbles bubbles | Bubbles are formed on-demand and are vapor (not gas) filled which re-condense within milliseconds as per teaching. | Indefinite; bubbles in reaction chamber are deliberately left there till the D and/or T atoms are depleted. |

APPLICANT

Ravi P. Talwar

ASSIGNEE

Ravi P. Talwar

Pre-Appeal Brief Request for Review: Application Number: 10/692,755; Applicant: Dr. Ravi P. Talwar; Page 5 of 5